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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,007	09/11/2003	Min-Ho Chang	SOLUN.001C1	7487

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Knobbe Martens Olson & Bear LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

EXAMINER

ROSENBERGER, RICHARD A

ART UNIT PAPER NUMBER

2877

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,007

Applicant(s)

CHANG, MIN-HO

Examiner

Richard A Rosenberger

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-11, 17 is/are rejected.
- 7) ☒ Claim(s) 6, 7 and 12-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/5/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 8, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiMatteo et al (US 4,269,513).

The reference shows an apparatus and method for measuring a three-dimensional shape of an object, the apparatus comprising a pattern film (37, figure 3) containing a plurality of striped patterns (36), wherein the striped patterns are formed in at least one of longitudinal and latitudinal directions; a projecting section (26, figures 1, 1a, 5) configured to project a plurality of striped patterns onto an object to be measures; a transporting section configured to move the pattern film along the at least one of the longitudinal and latitudinal directions such that the projecting section sequentially projects the pattern film onto the object (column 3, lines 15-17); a photographing section (40, figures 1, 1A, 5) configured to photograph the object with the plurality of striped patterns projected thereon at a predetermined interval of time; and an operational (48, figure 6) unit configured to estimate images of the object from the photographed images so as to obtain three-dimensional shape information for the object. The projecting and transporting

sections project the patterns in sequence (column 3, lines 15-17), it is at least obvious to have the timing of this sequence “predetermined”, that is, known in advance to the actual individual measurements.

The operation of the system of the reference determine the location of points on the object being measured relative to the stripes of the projected patterns, and thus must “determine the borders” of the striped patterns. The geometrical configuration of the projector and photographing sections may be varied as convenient within the general constraint that the photographing section be able to view the object with the projected patterns thereon.

3. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiMatteo et al (US 4,269,513) as applied to claim 1 above, and further in view of DiMatteo et al (US 4,187,011).

DiMatteo et al ‘011 discusses the use of cylindrical lenses in the projection of the patterns; see column 4, lines 63 through column 5, line 15. Thus use of such a cylindrical lens in the projector of DiMatteo et al ‘513 would have been obvious for the reasons of DiMatteo et al ‘011.

4. Claims 6, 7 and 12-16 appear to contain allowable subject matter. The art does not appear to teach or suggest the subject matter of claims 6, 7 and 12 wherein the width of the striped patterns is less than the entire projected area of the object

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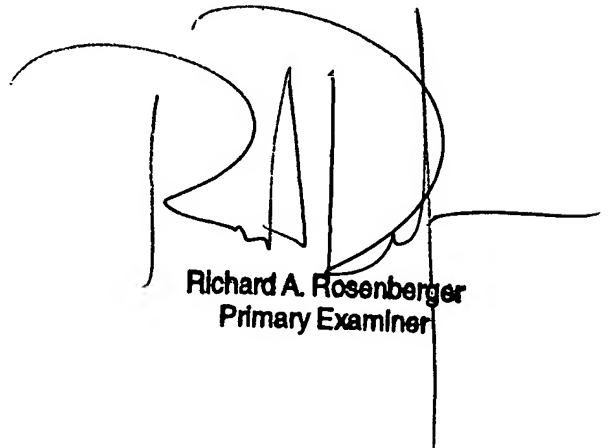
but greater than the product of the shutter speed and transporting speed of the pattern film. The art does not appear to teach or suggest the combining of selected image pieces as in claim 13, or the particular border extraction method if claim 14. These claims are objected to as being dependent from unallowed parent claims, but would be allowable if rewritten in independent form including all of the limitation of their respective parent claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A Rosenberger whose telephone number is (571) 272-2428. The examiner can normally be reached on Monday through Friday during the hours of 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Rosenberger
10 September 2004



Richard A. Rosenberger
Primary Examiner